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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,180	02/13/2002	Jeffrey Duane Vance	H49.12-0003	7284

7590 10/10/2003

Deirdre Megley Kvale
WESTMAN CHAMPLIN & KELLY
International Centre, Suite 1600
900 South Second Avenue
Minneapolis, MN 55402-3319

EXAMINER

NOLAN, SANDRA M

ART UNIT PAPER NUMBER

1772

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,180

Applicant(s)

VANCE ET AL.

Examiner

Sandra M. Nolan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 15-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 6 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 + 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims

1. Claims 1-29 are pending.

Election/Restrictions

2. Applicant's election of Group I, claims 1-14, in Paper No. 7 (the response dated 20 August 2003) is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. This application contains claims 15-29, drawn to inventions nonelected with traverse in Paper No. 7. A complete reply to any final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144). See MPEP § 821.01.

Information Disclosure Statement

4. The information disclosure statements (IDS's) submitted on 10 July 2003 and 30 August 2003 (Paper Nos. 5 and 6) were considered by the examiner.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The phrase "curable resin or epoxy" is indefinite because epoxy resins are curable. Please clarify the claims.

7. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms KEVLAR and SPECTRA are trademarks for materials. Since the composition of the material sold under a trademark may be changed, the claims should recite the chemical nature of the materials and not their trademarks. Please clarify.

Allowable Subject Matter

8. Claims 6 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The use of glass beads or particles with plates, per claim 6, in composites of the type claimed is not taught or suggested by the references of record.

The use of plates formed on one of the opposed layers, per claim 10, in composites of the type claimed is not taught or suggested by the references of record.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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10. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollis (US 3,969,563).

Hollis teaches a protective wall structure (title) having welded seams at wall edges (Figure 1, col. 2, lines 34-38). Col. 2, lines 47-52 describes high strength metal (col. 3, line 46) wires 4 and 5 in a "sandwich" (col. 2, lines 58-66) between layers 7 and 8. See also Figure 2.

The examiner deems the sandwich structure of Hollis to be a pocket holding wires 4 and 5 in place.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1-5, 7-9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widder (US 5,072,453) in view of Fortier et al (US 4,810,559) and Gould et al (US 5,220,263).

Widder teaches a body protection system to be worn to protect the wearer from bullets that comprises pockets that hold bulletproof plates. See plate **70** between walls **74** and **76** in pocket **72** of Figure 3 and the text at col. 4, lines 33-40.

The walls 74 and 76 are connected at edge 78 in Figure 3. The examiner deems the connection to be a seam.

Widder fails to teach multiple plates made of epoxy in an array on a substrate located between elastomer walls.

Fortier teaches multiple epoxy platelets (col. 3, lines 47-54) secured to a fabric (col. 2, lines 64-65) in a protective web (abstract). The platelets may be secured in an array on or into the fabric (Figures 2, 3a and 3b). The use of multiple platelets permits the web to yield under movement by a wearer (col. 1, lines 34-40).

Gould teaches gloves that protect wearers from punctures or cuts from sharp objects (abstract), which gloves contain a composite including multiple platelets of hard material (col. 4, lines 34-36) embedded (col. 7, line 9) in a polyurethane layer **15** (col. 7, line 23) sandwiched between two elastomer layers **30** (col. 10, line 4). The platelets may be in orderly patterns (col. 5, lines 35-58) or in offset groupings (col. 5, lines 57-58). The platelets may be in pockets within layer **15** to allow the layer to flex and stretch about them (col. 7, lines 28-31).

The references are analogous because they all deal with protective garments.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the epoxy platelets of Fortier as the platelets in the composites of Gould and to insert the resultant composites into the body protection

system of Widder in order to attain the flexibility of movement taught by Fortier and Gould in the system of Widder.

The motivation to employ the epoxy platelets and composite structure of Fortier and Gould is found at col. 1, lines 34-40 of Fortier and col. 7, lines 28-31 of Gould, where Fortier's web is said to yield to movement and Gould's composite is said to allow the inner layer to flex and stretch.

It is deemed desirable to make protective garments that yield (per Fortier) or flex (per Gould) when the wearers move in order to make the garments more comfortable during use.

The use of polyurethanes in the outer elastomer layers of the composite would be a matter of engineering choice, depending upon the properties desired in the articles made therefrom.

14. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widder in view of Fortier and Gould as applied to claims 1-5, 7-9 and 11-12 above, and further in view of Rousseau (US 5,789,327).

Widder, Fortier and Gould are discussed above.

They fail to teach the use of KEVLAR or SPECTRA fiber in the center of a sandwiched/pocketed protective composite.

Rousseau teaches the use of laminates containing KEVLAR (i.e., wholly aromatic polyamide) or SPECTRA (i.e., ultra high molecular weight polyethylene) fiber (col. 4, lines 55-56) in a ballistic panel (abstract) for use in a ballistic resistant vest (Figure 1). Its garments have ballistic resistance while being thin and light (col. 14, lines 46-50).

The four references are analogous because they all deal with protective garments.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the laminates of Rousseau along with the platelets in the garments suggested by the combination of Widder, Fortier and Gould, above, in order to enhance the impenetrability of garments made from the composites.

The motivation to employ the KEVLAR or SPECTRA fibers of Rousseau in the composite garments suggested by the combination of Widder, Fortier and Gould is found at col. 14, lines 46-50 of Rousseau, where the production of thin and light garments having good ballistic resistance is taught.

It is deemed desirable to produce protective garments having improved ballistic resistance along with thinness and lightness in order to enhance the level of protection afforded by the garments while keeping them comfortable.

Citation as of Interest

15. Ribere (FR 2599265 A1) is cited as of interest as teaching bullet-proof jackets containing protective plates enveloped by the jackets as well as in pockets in the jackets (Figure 2).

Conclusion

Any inquiry concerning this communication should be directed to the Examiner, Sandra M. Nolan, whose telephone number is 703/308-9545. The Examiner can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

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If attempts to reach the Examiner by telephone are unsuccessful, her supervisor, Harold Pyon, can be reached at 703/308-4251. The general fax number for the art unit is 703/305-5436. The fax number for after final communications is 703/872-9310. The receptionist answers 703/308-0661.



S. M. Nolan
Patent Examiner
Technology Center 1700

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23 September 2003